1016-03-212 **Karen M. Lange*** (klange@math.uchicago.edu), Mathematics Department, University of Chicago, 5734 S. University Ave., Chicago, IL 60637. *Degree Spectra of Homogeneous Models.*

Following Goncharov, Peretyat'kin, Millar, and others, we study the degree spectrum of a fixed nontrivial homogeneous model satisfying minimal computability conditions. Relativizing the conditions for the Goncharov-Peretyat'kin Effective Extension Property, we say a model $\mathcal{A}$ has a $\mathbf{d}$-*basis* of types if the types realized in $\mathcal{A}$ are all computable and $\mathbf{d}$ can list Δ_0 indices for all types realized in $\mathcal{A}$. Goncharov, Millar, and Peretyat'kin showed that there exists a homogeneous model $\mathcal{A}$ with a $\mathbf{0}$-basis such that $\mathbf{0} \notin dSp^e(\mathcal{A})$.

We prove that for a countable homogeneous $\mathcal{A}$ with a $\mathbf{0}'$-basis, $dSp^e(\mathcal{A})$ always contains a low degree. We call a degree $\mathbf{d}$ $\mathbf{0}$-*homogeneous bounding* if $\mathbf{d} \in dSp^e(\mathcal{A})$ for all nontrivial homogeneous models $\mathcal{A}$ with $\mathbf{0}$-bases. We show that the nonlow$_2$ Δ^0_2 degrees exactly characterize the $\mathbf{0}$-homogenous bounding degrees below $\mathbf{0}'$. Finally, given a homogeneous model $\mathcal{A}$ with a $\mathbf{0}$-basis, we show that if the theory T of $\mathcal{A}$ has all types computable, then $dSp^e(\mathcal{A})$ contains all non-zero degrees. (Received February 13, 2006)